

L 04442-67

ACC NR: AP6022054

message transfer by a factor of at least one over binary code and that the total probability of error in the operation of a telemechanical system depends on the number of corrected errors and not on the code base. Orig. art. has: 1 table.

SUB CODE: 09, 17/ SUBM DATE: 26Feb65/ ORIG REF: 002

awm

Card 2/2

ACC NR: AR7008655

SOURCE CODE: UR/0372/66/000/012/G044/G044

AUTHOR: Sovetov, B. Ya.

TITLE: Comparison of various methods for introducing redundancy into systems for transmission of telemechanical information

SOURCE: Ref. zh. Kibernetika, Abs. 12G288

REF SOURCE: Izv. Leningr. elektrotekhn. in-ta, vyp. 56, ch. 2, 1966, 128-132

TOPIC TAGS: remote control, data transmission, information theory, signal coding

ABSTRACT: The author considers the effect which the algorithm for coding the states of an informational telemechanical system has on the process of information transmission. The special case is analyzed where the reliability of the system is evaluated by an exponential distribution law, assuming that the communication channel is subjected to the most harmful type (for discrete telemechanical systems) of random pulse interference with Poisson time distribution. Standby arrangements are considered for the circuits which shape and generate the code element, for the circuits which shape and generate the components of code combinations with respect to a single signal characteristic, and for the systems as a whole. Formulas are given for quantitative evaluation of failure intensity for the entire system in each of the given cases. 2 illustrations. L. Sh. [Translation of abstract]

SUB CODE: 09

Card 1/1

UDC: 621.391.17

ALEKSEYEV, F.K.; ANDRIYUTS, G.L.; ARSENT'YEV, A.I.; ASTAF'YEV, Yu.P.;
BEVZ, N.D.; BEREZOVSKIY, A.I.; GENERALOV, G.S.;
DOROSHENKO, V.I.; YESHCHENKO, A.A.; ZAPARA, S.A.; KALINICHENKO, V.F.;
KARNAUSHENKO, I.K.; KIKOVKA, Ye.I.; KOBOZEV, V.N.; KUPIN, V.Ye.;
LOTOUS, V.K.; LYAKHOV, N.I.; MALYUTA, D.I.; METS, Yu.S.; OVODENKO,
B.K.; OKSANICH, I.F.; PANOV, V.A.; POVZNER, Z.B.; PODORVANOV, A.Z.;
POLISHCHUK, A.K.; POLYAKOV, V.G.; POTAPOV, A.I.; SAVITSKIY, I.I.;
SERBIN, V.I.; SERGEYEV, N.N.; SOVETOV, G.A.; STATKEVICH, A.A.;
TERESHCHENKO, A.A.; TITOV, O.S.; FEDIN, K.P.; KHOMYAKOV, N.P.;
SHEYKO, V.G.; SHEKUN, O.G.; SESTAKOV, M.M.; SHTAN'KO, V.I.

Practice of construction and exploitation of open pits of Krivoy
Rog Basin mining and ore dressing combines. Gor. zhur. no.6:
8-56 Je '63. (MIRA 16:7)

(Krivoy Rog Basin--Strip mining)

KUDRYA, N.A., inzh.; CHUVILIN, A.M., inzh.; PESKOV, B.A., inzh.;
CHEKULAYEV, P.G., inzh.; SOVETOV, G.A., inzh.

Testing a new boring bit for sinker hammers. Gor. zhur.
no.9:51-52 S '65. (MIRA 18:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut tverdykh
splavov, Moskva.

GATOV, A.G. [translator]; GINGOL'D, L.S. [translator]; GREBENNIKOVA, Ye.N., [translator]; ZANEGIN, B.N. [translator]; ZVONOV, A.A. [translator]; ISAYENKO, B.S. [translator]; KOTOV, A.V. [translator]; MAYZEROV, S.M. [translator] SAFONOVA, Z.M. [translator]; SOVETOV, I.Iu [translator]; SOROKIN, V.F. [translator]; TSVETKOVA, T.Ya. [translator]; CHZHOU, Sun-yuan' [translator]; SOGOMONYAN, G.S. [translator], redaktor; SHAPOVALOV, V.I., tekhnicheskiy redaktor

[Socialist development in the Chinese village; a collection of articles prepared by the office of the Central Committee of the Chinese Communist Party] Sotsialisticheskii podzem v kitaiskoi derevne; sbornik izbrannykh statei podgotovlen kantseliariei TsK KPCh. Moskva, Izd-vo inostrannoi lit-ry, 1956. 502 p. (MLRA 9:10)
(China--Agriculture)

SOVETOV, N.A., inzh.

Decrease in the pulse delay time by changing the temperature of
superheated steam. Energetik 10 no.1:1-3 Ja '62.

(MIRA 14:12)

(Boilers)

SOVETOV, N.A., inzh.

Regulation of steam temperature during firing and loading of a
boiler. Elek. stat. 35 no.1:2-4 Ja '64. (MIRA 17:6)

SOVETOV, N.I., brigadir ekskavatornoy brigady

We will fulfill two yearly norms by the opening of the 22d
Congress of the Party. Transp. stroi. 11 no.8:11-12 Ag '61.
(MIRA 14:9)

1. Upravleniye Stalinskstrcyput', mekhanizator Ministerstva
transportnogo stroitel'stva.
(Stalino Province--Earthwork)

USSR/Physics - Waveguides dispersion

FD-1085

Card 1/1 Pub. 153 - 21/24

Author : Sovetov, N. M.

Title : Dispersive properties of a sectionalized waveguide

Periodical : Zhur. tekhn. fiz., 24, No 10, 1907-1909, Oct 1954

Abstract : The author presents the results of a calculation giving the relations among the speeds of dispersive phase propagation. He compares these results with experimental data.

Institution : -

Submitted : May 21, 1954

Sovetov, N.M.

ANISIMOV, Ye.V.; SOVETOV, N.M.

Propagation of electromagnetic waves along a band spiral placed
inside a circular waveguide. Zhur.tekh.fiz. 25 no.11:1965-1971
O '55. (Wave guides) (Electric waves) (MLRA 9:1)

AUTHOR: SOVETOV,N.M., SUKHOV,V.A. 109-5-13/22
TITLE: On the Question of the Calculation of Power Flux and the Connection Resistances in the Spiral Band. (K voprosu o raschete potoka moshchnosti i soprotivleniy svyazi v lentochnoy spirali, Russian)
PERIODICAL: Radiotekhnika i Elektronika, 1957, Vol 2, Nr 5, pp 622-630 (U.S.S.R.)

ABSTRACT: The theory mentioned here is based upon the method of representing electromagnetic fields in a heterogenous periodic structure in form of infinite sums of spatial harmonics. By means of direct integration of the formula by UMOV-POINTING the equation for the power flux in the spiral is obtained. On the basis of an investigation of the re-energy distribution according to harmonics it is shown that the reflection of the energy in the point of separation can be explained by the change of the direction into one that is opposite to the power flux which corresponds to the negative harmonics. Besides, some approximations which are possible when calculating the full power flux in the spiral are evaluated and the connection resistances of the zero-th and of the first negative spatial harmonic are computed for some concrete examples of spirals. (With 3 Illustrations and 3 Slavic References).

ASSOCIATION: Not given
PRESENTED BY:
SUBMITTED: 11,2.1956
AVAILABLE: Library of Congress
Card 1/1

SOVETOV, N.M.

109-7-14/17

AUTHOR: Sovetov, N.M.

TITLE: Coaxial Tape Helix with a Central Conductor. (Koaksial'naya lentochnaya spiral' s tsentral'nym provodnikom) (Brief News item)

PERIODICAL: Radiotekhnika i Elektronika, 1957, Vol.II, No.7,
pp. 939-941 (USSR).

ABSTRACT: A tape helix of diameter $2a$ (see the figure enclosed) is placed inside a conducting cylinder having a diameter $2b$ and contains in its centre a conducting rod having a diameter $2d$. Width of the tape is b , its period is p and its angle is ϕ . Electric and magnetic fields for the regions inside and outside the tape are given (see eqs.(1) and (2)), in which the unknown constants can be determined from the boundary conditions at the tape and at the external cylinder. These are given by eqs. (3) and (4). The above results are used to determine the dispersion equation for the system (see eq. (5)). At comparatively low frequencies ($1/ka \gg 15$), the dispersion is almost entirely determined by the zero harmonic. Consequently, for a system with $d \rightarrow 0$ and a system with $b \rightarrow \infty$, the dispersion equations are given by simple formulae (7) and (8). These expressions are identical if $b/a = s/d$.

SOV/58-59-8-18588

Translated from: Referativnyy Zhurnal Fizika, 1959, Nr 8, p 223 (USSR)

AUTHOR: Sovetov, N.M.

TITLE: Some Properties of Electromagnetic Waves in Tape Helices

PERIODICAL: Tr. Taganrogsk. radiotekhn. in-ta, 1958, Vol 2, pp 41-46

ABSTRACT: The author analyzes the picture of the dispersion of electromagnetic waves in a coaxial tape helix. The numerous paired forms of oscillations thereby obtained are treated as spatial harmonics of the complex waves of the coaxial cable. In addition, the behavior of the waves near critical points is examined. The cut-off of waves is explained for this case in terms of the spatial polarization of the wave, which depends on the frequency.

N.M. Sovetov

Card 1/1

05202
SOV/142-2-3-10/27

9(2,4)

AUTHOR:

Sovetov, N.M.

TITLE: The Fourier Transformation as a Common Method of Considering Matching Transitions in Transmission Lines

PERIODICAL: Izvestiya vuzshikh uchebnykh zavedeniy, Radiotekhnika, 1959, Vol 2, Nr 3, pp 340-352 (USSR)

ABSTRACT: Using the Fourier transformation, the author determines the reflection coefficient and the advantages of stepped (binomial and Chebyshev transitions) and for tapered transitions for the exponential, limited binomial, probability, of different trigonometrical and limited Chebyshev types. The author also compares these transitions with each other. The Fourier transformation method used for finding the reflection coefficients of different transitions proves to be sufficiently simple and universal. Its application may find difficulties only when used for transitions in which the dependence $P(x)$ is expressed by a function which cannot be squared. However, in this case approximated calculation methods or tables may be used as this is done when considering the hyperbolic transitions. The comparison of the transitions shown in table 2,

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05202
SOV/142-2-3-10/27

The Fourier Transformation as a Common Method of Considering Matching Transitions in Transmission Lines

leads to the conclusion that the Chebychev transition will be the most advantageous one of the step transitions. The limited Chebychev transition will be the most advantageous of the tapered transition. When selecting transitions it is necessary to remember that stepped transitions are considerably simpler in manufacture than tapered transitions and therefore the Chebychev transition may be the best in the majority of cases. The article was recommended for publication by the Nefedra radioperedayushchikh ustroystv Taganrogskogo radiotekhnicheskogo instituta (Chair of Radio Transmitting Equipment of the Taganrog Radio Engineering Institute). There are 1 diagram, 2 tables, 14 references, 8 of which are American and 6 Soviet.

SUBMITTED: December 27, 1958 (November 11, 1958)

Card 2/2

SOVETOV, N.M.

Synthesis of matching transmission line sections. Izv.
vys. ucheb. zav.; radiotekh. 2 no.6:699-703 N-3 '59.

(MTRA 13:6)

1. Rekomendovana kafedroy radioperedayushchikh ustroystv
Taganrogskogo radiotekhnicheskogo instituta.
(Radio lines)

S/058/62/000/006/109/136
A062/A101

AUTHORS: Kats, A. M., Anisimov, Ye. V., Sovetov, N. M.

TITLE: Certain dispersion properties of a ribbon helix with a central conductor

PERIODICAL: Referativnyy zhurnal, Fizika, no. 6, 1962, 21, abstract 6Zh142
("Nauchn. yezhegodnik. Saratovsk. un-t. Fiz. fak. i N.-i. in-t
mekhan. i fiz.", 1955", Saratov, 1960, 116 - 119)

TEXT: The dispersion equation of a ribbon helix with a central conductor is derived and analyzed. The values of the system parameters, for which the effect of the central conductor is particularly strong, are determined; the appearance of anomalous dispersion regions is noted.

S. A.

[Abstracter's note: Complete translation]

Card 1/1

SOVETOV, N.M.; LYUBIMOVA, T.M., red.; SVESHNIKOV, A.A., tekhn. red.

[Circuit for the engineering design of a backward-wave tube
using a helix] Skhema inzhenernogo rascheta lampy obratnoi
volny na spirali. Moskva, Izd-vo "Sovetskoe radio," 1961. 51 p.
(MIRA 15:3)

(Traveling-wave tubes)

31993

S/142/61/004/004/014/018
E192/E582

9,1300 (1144)

AUTHORS: Sovetov, N.M., Klimov, V.A. and Nefedov, Ye.I.

TITLE: Experimental investigation of waveguide and coaxial
transformers by using symmetrical analoguesPERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy,
Radiotekhnika, v. 4, no. 4, 1961, 488 - 491

TEXT: The matching transformers connecting the output of one line to the input of another line are often employed at UHF. However, although these transformers can be designed analytically, it is difficult to measure their characteristics. A method of investigating such transformers over a wide frequency band is described. This is based on the so-called symmetrical analogue or symmetrical transformer. The system considered is shown in Fig. 1. The symmetrical transformer consists of two ordinary matching transformers, which are connected to each other by their output terminals. The transformers are spaced at a distance d_0 and the generator is connected at the point C; the line is short-circuited at point Q; β_1 is the phase constant of the lefthand-side and

31993
S/142/61/004/004/014/018
E192/E382

Experimental investigation

the righthand-side sections and β_0 is the phase constant of the middle portion of the line; Θ is the phase-shift in each transformer.

$\Gamma_1 = |\Gamma_1| e^{j\varphi_1}$, $\Gamma_2 = |\Gamma_2| e^{j\varphi_2}$ are the reflection coefficients of the input and output of the transformers and T is the transmission coefficient of each transformer. Under the assumption that $|\Gamma_1| = |\Gamma_2| = \Gamma$, the field at the initial point C can be written as:

$$E_c = 2 / \left\{ \frac{1}{T} \sin (\beta_1 d_1 + \beta_0 d_0 + \beta_1 d_2 - 2\Theta) - \right. \\ \left. - |\Gamma| \cdot \left[\frac{1}{|T|} \sin (\beta_1 d_1 - \beta_0 d_0 - \beta_1 d_2 + 2\Theta - \varphi) + \right. \right. \\ \left. \left. + |T| \sin (\beta_1 d_1 + \beta_0 d_0 - \beta_1 d_2 - \varphi) \right] \right\}. \quad (1).$$

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31993
S/142/61/004/004/014/018
E192/E382

Experimental investigation . . .

It is convenient to use the short-circuiting plunger for measuring the reflection coefficient; when the righthand-side terminal is short-circuited, the line has a number of node points whose position is determined (Ref. 6 - Measurement at ultrahigh frequencies, Izd-vo Sovetskoye radio, 1952):

$$\beta_1 d_1 + \beta_0 d_0 + \beta_1 d_2 - 2\Theta = n\pi + \delta \quad (2)$$

where $n = 0, 1, 2, 3 \dots$. The quantity δ in Eq. (2) represents a small perturbation parameter. By assuming that $E_c = 0$ and substituting Eq. (2) in Eq. (1), the following expression is obtained:

$$\sin \delta = 2|\Gamma| \cos(\beta_0 d_0 + \Theta) \cos(\delta + 2\Theta - \beta_0 d_0 - 2\beta_1 d_2) \quad (3)$$

where $\sin \delta = |\Gamma_0|$, where $|\Gamma_0|$ is the reflection coefficient for the two symmetrically connected devices. From Eq. (3) it

Card 3/5

31993
S/142/61/004/004/014/018
E192/E382

Experimental investigation

follows that the reflection coefficient for one of the trans-formers is expressed in terms of the reflection coefficient of the symmetrical transformer, i.e.:

$$|\Gamma| = \frac{|\Gamma_0|}{2 \cos(\beta_0 d_0 + \Theta)} \quad (4)$$

If the transformer parameters are chosen so that the length d is a multiple of the mean wavelength of the range and Θ is a multiple of 2π , Eq. (4) can be written as:

$$|\Gamma| = \frac{1}{2} |\Gamma_0| \quad (5)$$

It can be shown that Eq. (5) can be used over the whole operating bandwidth of the transformer, without introducing a large error. The possibility of using the symmetrical transformations for

Card 4/5

31993

S/142/61/004/004/014/018
E192/E382

Experimental investigation

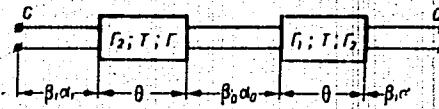
measuring the reflection coefficient of the non-symmetrical transformers was verified experimentally by employing Chebyshev-type transformers for a matching impedance ratio of 50:25 and 57:25 Ω . It is concluded from the experimental data that the above method of measuring the parameters of the matching transformers is fully satisfactory.

There are 5 figures and 6 Soviet references.

ASSOCIATION: Kafedra radioperedayushchikh ustroystv Taganrog-skogo radiotekhnicheskogo instituta (Department of Radio-transmitting Devices of Taganrog Radio-engineering Institute)

SUBMITTED: September 17, 1960

Fig. 1:



Card 5/5

34266

S/142/61/004/005/012/01⁴
E192/E382

9,1400

AUTHOR: Sovetov, N.M.

TITLE: Reflection coefficient for the conical section of a
helical linePERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy,
Radiotekhnika, v. 4, no. 5, 1961, 615 - 618

TEXT: The transformer section of a helical line (shown in Fig. 1) connecting a coaxial line to a helix is analyzed. The conical section of the helix, having a length ℓ , is terminated on its input side with a long cylindrical helix having a radius $2a$ and pitch p ; The other end of the section is terminated with a coaxial line having an impedance z , which is also the impedance of the helix; the inner conductor of the coaxial line has a diameter a_1 and the external conductor has a diameter d_1 . It is necessary to determine the reflection coefficient for the zero harmonic of the field in the helix, which carries the main power flux in the helix. Under these conditions, it is possible to approximate the helix by a

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34266

S/142/61/004/005/012/014

E192/E382

Reflection coefficient

helically conducting surface (Ref. 1: Pierce, D. Travelling-wave tube, Sovetskoye Radio, 1952). Further, it can be assumed that the helix and the helical cone have a small winding angle ψ , the conductor is very thin and that the turns of the winding are close to each other. The generatrices of the cone converge at an angle $2\pi r$. The reflection coefficient for the conical section can be found by employing the Fourier transformation (Ref. 2: the present author - Izv. vuzov SSSR - Radiotekhnika, v.2, no.3, 1959, 340):

$$\Gamma = \frac{1}{2} \int_0^l P(x) e^{-2j\beta x} dx \quad (1)$$

where:

$$P(x) = \frac{d \ln Z}{dx}$$

where l is the length of the transformer section.

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34266

S/142/61/004/005/012/014
E192/E382

Reflection coefficient

The quantity Z in the formula for $P(x)$ can be expressed as $Z = 30/ka$, where $k = 2\pi/\lambda$. Since the generatrices of the cone are straight lines, $Z = 30/x + \operatorname{tg} \varphi$, so that:

$$p(x) = 1/x$$

(2) .

Consequently, the expression for Γ is:

$$\Gamma = \frac{1}{2} \int_{1}^{2} \frac{e^{-2j\beta x}}{x} dx$$

(3) .

By introducing new variables $2j\beta x = t$, $2\beta l_1 = y_1$ and $2\beta l_2 = y_2$, the integral of Eq. (3) can also be expressed as:

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34266

S/142/61/004/005/012/014

E192/E382

Reflection coefficient

$$\int_{-\infty}^{\infty} \frac{e^{-2j\beta x}}{x} dx = \int_{-\infty}^{\infty} \frac{e^{-t}}{t} dt - \int_{-\infty}^{\infty} \frac{e^{-t}}{t} dt = -Ei(-jy_1) + Ei(-jy_2).$$

Since at the upper frequencies of the operating range of the helix $y_1 \gg 1$ and $y_2 \gg 1$, the final expression for the reflection coefficient is in the form:

$$|\Gamma| = \frac{1}{2} \left[\frac{1}{y_1} + \frac{1}{y_2} - \frac{2 \csc(y_2 - y_1)}{y_1 y_2} \right]^{1/2} \quad (7).$$

From the above, it is seen that when $a_1 = a_2$ and $\lambda \rightarrow \infty$, $\Gamma = 0$.

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34266

Reflection coefficient

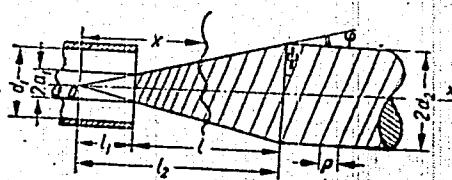
S/142/61/004/005/012/014
E192/E382

There are 2 figures and 3 Soviet-bloc references, one of which is translated from English.

ASSOCIATION: Kafedra obshchey fiziki Rostovskogo-na-Donu gos. universiteta (Department of General Physics of Rostov-on-Don State University)

SUBMITTED: October 29, 1960

Fig. 1:



Card 5/5

9.1400

S/109/61/006/003/004/018
E140/E135

AUTHOR: Sovetov, N.M.

TITLE: Generalized Impedance Circle Diagram for Microwave
Channel With Negative Resistance

PERIODICAL: Radiotekhnika i elektronika, 1961, Vol.6, No.3,
pp. 371-374

TEXT: This article presents a generalization of the well
known impedance circle diagram, for use on microwave channels
with identical lumped equidistant negative resistances or with
uniformly distributed negative resistance.

There are 3 figures and 3 references: 2 Soviet and 1 English.

SUBMITTED: December 7, 1959

Card 1/1

L 10377-63
ACCESSION NR: AP3000339

S/0142/63/006/002/0204/0207

44

AUTHOR: Sovetov, N. M.

TITLE: Ringed delay line

SOURCE: Izv. VUZ: Radiotekhnika, v. 6, no. 2, 1963, 204-207

TOPIC TAGS: delay lines, TW tubes

ABSTRACT: An attempt is made to analyze the "Slow-wave guide TW tube" (by Crepeau, P. J., PIRE, 1961, No. 2, p 563) by the well-known method of equivalent circuits. With certain simplifying assumptions, the ringed delay line is replaced by a T-network consisting of 3 elementary LC circuits, and then the dispersion-equations technique is applied. It is shown that the ringed line has: (a) a small delay for a low-dispersion range and (b) a rather high and stable characteristic impedance. The ringed line is considered suitable for high-power tubes that use very high accelerating potentials. Orig. art. has: 21 equations and 3 figures.

Card 1/2

L 10377-63
ACCESSION NR: AP3000339

ASSOCIATION: Saratovskiy Gosuniversitet im. N. G. Cherny*shevskogo (Saratov State University)

SUBMITTED: 04Jul62 DATE ACQ: 13Jun63 ENCL: 00

SUB CODE: CO NR REF SOV: 003 OTHER: 001

1s/
Card 2/2

L 39917-65

EEG(b)-2/EWA(h)/EWT(1)

P1-1/P2-4/Pm-4/Pn-1/Pac-4/Ref

JK

ACCESSION NR: AP5002045

S/0142/64/007/005/0633/0635

29

B

AUTHOR: Sovetov, N. M.TITLE: Estimating the efficiency of a TW tube by means of a simplified
nonlinear equation

SOURCE: IVUZ. Radiotekhnika, v. 7, no. 5, 1964, 633-635

TOPIC TAGS: TW tube, TW tube efficiency

ABSTRACT: A set of nonlinear equations of a TW tube offered by V. I. Gayduk,
et al. (IVUZ. Radiotekhnika, 1961, v. 4, no. 3, 254), was solved by those
authors on a digital computer. Their results did not agree well with a rigorous
TW-tube theory developed by J. Rowe. The disagreement is due to neglectance
of the variation of amplitude caused by three waves at the input (J. Pierce's
"initial-loss parameter"). The present short article reports that a solution of the
same set of nonlinear equations on an analog computer which takes into account

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L 39917-65

ACCESSION NR: AF5002045

Pierce's parameter is much more accurate. In addition, the labor involved is only one-tenth that required for the digital computer. Orig. art. has: 4 figures and 4 formulas.

ASSOCIATION: none

SUBMITTED: 14Jan64

ENCL: 00

SUB CODE: EC

NO REF SOV: 004

CTHER: 000

Card 2/2 n:b

L 6349-66 EWT(d) IJP(c)
ACC NK: AP5020369

SOURCE CODE: UR/0141/65/008/003/0561/0568

44,55
AUTHOR: Sovetov, N. M.

3

ORG: Saratov Polytechnical Institute (Saratovskiy politekhnicheskiy institut)

44,55
TITLE: The approximate calculation of transverse electron oscillations in a travelling wave tube taking into account the variation in particle mass as a function of velocity

SOURCE: IVUZ. Radiofizika, v. 8, no. 3, 1965, 561-568

16,14,55
TOPIC TAGS: relativistic electron nonlinear differential equations, travelling wave tube, electromagnetic wave oscillation

ABSTRACT: Use of the external field method gives an approximate system of nonlinear differential equations to describe the transverse displacements of electrons in a travelling wave tube under the action of a high frequency field. Electron trajectories are established which make it possible to determine the divergence of the beam for different tube parameters. In the analysis the system of equations for the relativistic electron motion is formulated. It is assumed that small longitudinals

Card 1/2

UDC: 621.385.632

09020110

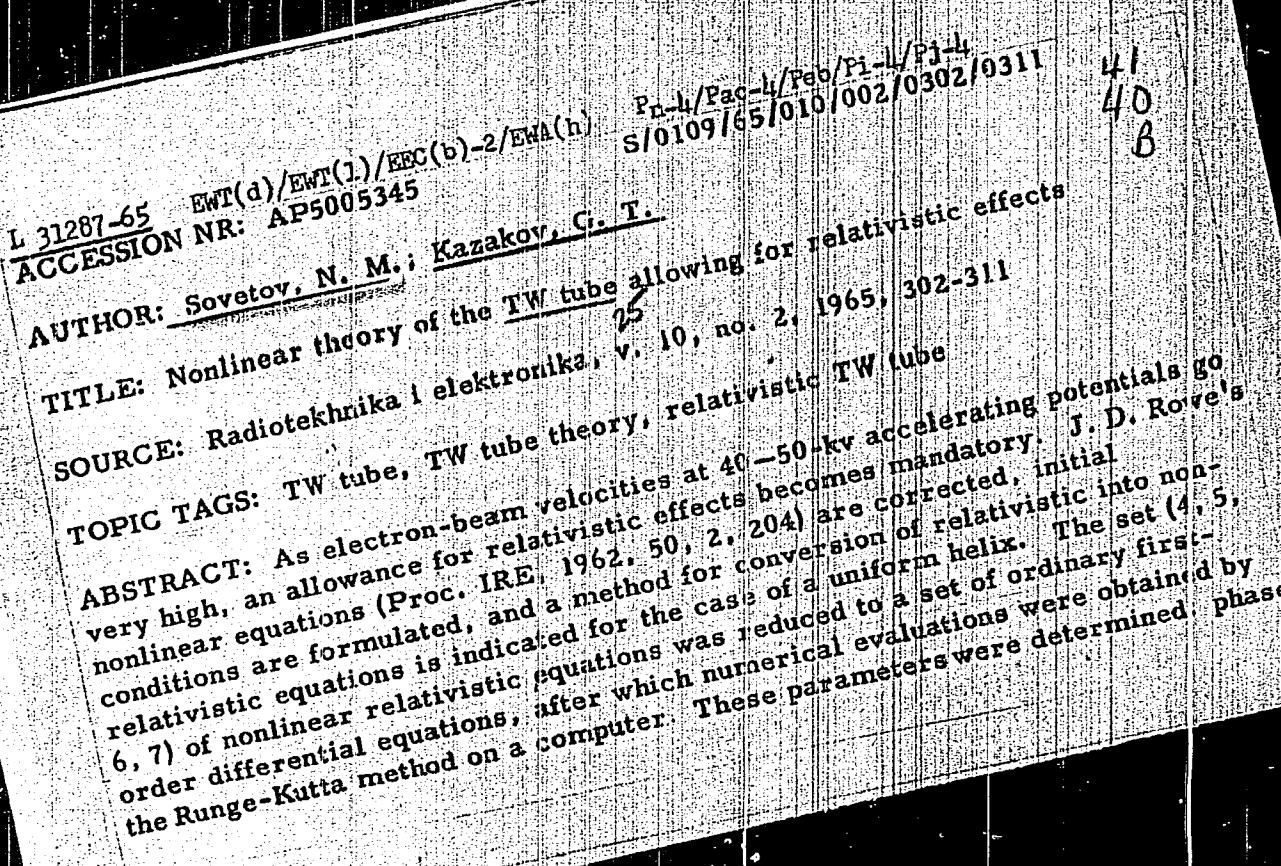
L 6349-66

ACC NR: AP5020369

variation in electron velocity have no effect on the transverse deviations. This simplifies the equations for the high frequency field. Further simplifications are achieved by considering the ratio of the radial electron velocity to the velocity of light to be negligible. The transverse electron oscillations are computed for the following cases: (a) high frequency electromagnetic field in the travelling wave tube is absent; (b) linear interaction region of the travelling wave tube; (c) simulator is used to solve the equations relating transverse electron deviations with system parameters; (d) approximate equations are used to describe the solution in the operating region. Orig. art. has: 29 equations and 3 figures.

SUB CODE: EC,GP/ SUBM DATE: 10Apr64/ ORIG REF: 008/ OTH REF: 000

nW
Card 2/2



L 31287-65

ACCESSION NR: AP5005345

focusing, gain, optimal interaction length, deviation of the electron phase from its undisturbed value, efficiency of the relativistic TW tube, space-charge effect, and variation of electron relative velocity. It is found that the gain and efficiency increase with the electron velocity provided C remains constant. As the electron velocity rises, the effect of mutual electron disregregation drops considerably. "In conclusion, the authors wish to thank V. N. Lozhkin who carried out the programing and computing work." Orig. art. has: 8 figures, 32 formulas and 1 table.

ASSOCIATION: none

SUBMITTED: 07Jan64

ENCL: 00

SUB CODE: EC, M^o

NO REF SOV: 006

OTHER: 004

Card 2/2

L 31905-66 EWT(1) JM

ACC NR: AP6010721

SOURCE CODE: UR/0142/66/009/001/0042/0051

62

B

AUTHOR: Sovetov, N. M.; Snopko, K. N.

ORG: none

TITLE: Use of the system of equations of TW tube in the theory of relativistic
klystron

25

SOURCE: IVUZ. Radiotekhnika, v. 9, no. 1, 1966, 42-51

TOPIC TAGS: klystron, TRAVELING WAVE TUBE, SPACE CHARGE,
APPROXIMATION METHOD

ABSTRACT: The D. Rowe system of nonlinear equations for TW tube (PIRE, 1962,
v. 50, no. 2, 204) is extended over the case of a relativistic klystron. By using a
simplest TW-tube space-charge formula, this approximate formula for the first
harmonic of current in a 2-resonator klystron is developed:

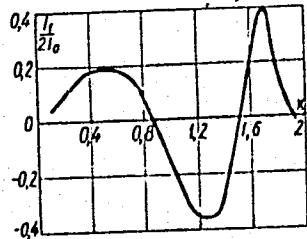
$$I_1 = \frac{I_0}{\pi} \sum_{m=1}^{\infty} J_{2m-1}(a) \frac{\sin[2(m-1)(-2\pi n) - b] + \sin b}{2(m-1)}$$
 Thus, the current in the drift space is a result of beating of two alternating functions. An example of $I_1/2I_0$ as a function of X , with $\Omega = 1/6$, is shown in the figure. The formulas for the first-

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UDC: 621.385.632

L 31905-66

ACC NR: AP6010721



harmonic current are also developed for a 3-resonator klystron that has unequal voltages on its resonators. Optimal positions of resonators in the drift space depending on various parameters are considered. It is hoped that this article may prove useful for developing a single theory for klystrons and TW tubes. Orig. art. has: 7 figures and 54 formulas.

C

SUB CODE: 09 / SUBM DATE: 02Jul64 / ORIG REF: 007

L.S.

Card 2/2

L 31904-66 EWT(1) JM
ACC NR: AP6010722

SOURCE CODE: UR/0142/66/009/001/0052/0058

AUTHOR: Sovetov, N. M.; Shestoperov, A. N.

45
B

ORG: none

TITLE: Linear theory of the relativistic TW tube

SOURCE: IVUZ. Radiotekhnika, v. 9, no. 1, 1966, 52-58

TOPIC TAGS: ~~SHF~~ TRAVELING WAVE TUBE, NONLINEAR EQUATION

ABSTRACT: It is claimed that one of the D. Rowe fundamental TW-tube nonlinear equations contains "a number of inaccuracies." This equation is claimed to be more accurate: $\left[\frac{\partial^2}{\partial t^2} - v_0^2 \frac{\partial^2}{\partial z^2} + 2\omega Cd \frac{\partial}{\partial t} \right] V(z, t) = Kv_0 \left| \frac{\partial^2}{\partial t^2} + \omega Cd \frac{\partial}{\partial t} \right| \rho(z, t)$. It differs from the Rowe equation in these respects: (1) No factor 2 in the second term of the right-hand member; (2) The attenuation parameter d is not equal to the Pierce

UDC: 621.385.632

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L 31904-66

ACC NR: AP6010722

parameter but is connected with the latter in this way: $d=d_n \left(\frac{v_0}{u_0} \right) = \frac{d_n}{1+Cb}$; (3) The new equation uses the parallel characteristic impedance K , not the series Z_0 ; these impedances are connected by this relation: $K=\frac{1}{F}Z_0$. For a helix and non-relativistic velocities, $K \approx Z_0$; however, for relativistic velocities this approximate equality does not hold true. A new linear characteristic equation of the relativistic TW tube is developed with the above corrections; its roots are examined for some particular cases. Orig. art. has: 5 figures and 30 formulas.

SUB CODE: 09 / SUBM DATE: 02Jan64 / ORIG REF: 006 / OTH REF: 005

LS
Card 2/2

SOVETOV, P.

Sovetov, P. "Placing beekeeping in Leninabad Oblast on a high level", Sel. khoz-vo Takzhikstana, 1949, No. 2, p. 39-41.

SO: U-411, 17 July 53, (Letopis' Zhurnal 'nykh Statey, No. 20, 1949)

SOVETOV, P. V.

"Problemy 'dolevogo zemlepol'zovaniya' v Yevrope."

report submitted for 7th Intl Cong, Anthropological & Ethnological Sciences,
Moscow, 3-10 Aug 64.

PARFENT'YEV, A.I.; DEMIKHOVSKIY, L.A.; MATVEYENKO, A.S.; TAGER, P.G.,
professor, redaktor; SOVETOV, S.S., redaktor; MATISSEN, Z.M.,
tekhnicheskiy redaktor

[Sound recording in the staging of theatricals] Zvukozapis' v
oformlenii spektaklia. Pod red. P.G.Tagera. Moskva, Gos. izd-vo
"Iskusstvo," 1956. 142 p.
(MLRA 9:7)
(Sound--Recording and reproducing)

SOVETOV, S. Ye.

"Problems of School Hygiene at the Twelfth All-Union Congress," Gig. i San., No. 1, 1948.

SOVETOV S. E. Topical problems in the work of the school doctor Gigiyena i Sanitariya, Moscow 1950, 2 (3-8)

SO: Medical Microbiology & Hygiene Section IV, Vol 3, No 7-12

SOVETOV, S.Ye., professor; BELYAYEV, K.I.

[Health of the school child] O zdrav'ye shkol'nika. Moskva, Gos. uchebno-pedagog. izd-vo, 1952. 43 p.

(MLR 6:5)
(Children--Care and hygiene)

1. SOVETOV, S. YE.
 2. USSR (600)
 4. School Hygiene
 7. School hygiene in the 35 years of Soviet rule.
Gig. i san. 17 No. 11, 1952
-
9. Monthly List of Russian Accessions, Library of Congress, March 1953, Unclassified.

SOVETOV, S. Ye. i BELYAYEV, K. I.

3698. SOVETOV, S. Ye. i BELYAYEV, K. I. O Zdorovye shkol'nika. Baku. Oc"edin. ize., 1954. 43s. 20sm. (Resp. dom sanprosveta M-va zdravookhraneniya Azercaydzh. SSR. Roditelyam o vospitanii). 10.000 ekz. Besp. - Bibliogr. v Kontse Knigi- (54-57197) 613.955 + (016.3)

SO: Knizhnaya Letopis', Vol. 3, 1955

SOVETOV, S. YE.

7986. SOVETOV, S. YE. Bud'gotov k sanitarnoy oborone SSSR, posobiye dlya uchashchikhsya V-VI klassov semilet. I sred. shkoly po podgotovke v kruzhkakh. BGSO Cheboksary, chuvashgosizdat, 1954.88 s.s ill. 23 sm. (ispol. kom. soyuza obshchestv krasnogo kresia I Krasnogo Polumesyaisa SSSR). 10.000 EKZ. 2r. 60k. V per.--NA pereplete Avt. ne Ukanan.--NA chuvash. Yaz.--(55-669) p

614(075)

SO: Knizhuava Letopis', Vol. 7, 1955

SOVETOV, S.Ye.

[Fundamental sanitary problems of children's and adolescent's institutions; buildings and equipment] Osnovnye sanitarnye voprosy detskikh i podrostkovykh uchreshdenii; z'danie i oborudovanie. Moskva, Medgiz, 1954. 277 p.
(Sanitation) (Children--Care and hygiene)

SOVZETOV, S.Ye., professor.

Hygiene of agricultural work for school boys. Mst.v shkole
no.2:23-29 Mr-Ap '54. (MLRA 7:3)

1. Moskovskiy gosudarstvennyy pedagogicheskiy institut im. V.I.
Lenina. (School children)

FILEROV, Oleg Vsevolodovich, kandidat meditsinskikh nauk; SOVETOV, S.Ye., professor, redaktor; DANILOVA, M.P., redaktor; SAKHAROVA, N.V., tekhnicheskiy redaktor

[School hygiene; manual for pedagogical institutes] Shkol'naya gigiena; uchebnik dlya shkol'nykh pedagogicheskikh uchilishch. Izd. 3-e, Pod red. S.B.Sovetova. Moskva, Gos. uchebno-pedagog. izd-vo Ministerstva prosveshcheniya RSFSR, 1955. 188 p. (MLR 9:12)

(SCHOOL HYGIENE)

SOVETOV, S. Ye.

AID P - 2892

Subject : USSR/Medicine
Card 1/1 Pub. 37 - 9/20
Authors : Ivanov, V. A., Dots.; Malov, G. A., Aspirant;
Sovetov, S. Ye., Prof.
Title : Grigoriy Vital'yevich Khlopin, outstanding Soviet
hygienist
Periodical : Gig. i san., 9, 35-41, S 1955
Abstract : A biography of G. V. Khlopin and a review of his
work. Portrait. 9 refs. and footnotes.
Institution : Chair of Municipal Hygiene, Moscow Order of Lenin
First Medical Institute, and Chair of School Hygiene,
Moscow Pedagogical Institute im. V. I. Lenin.
Submitted : Je 26, 1954

SOVETOV, S.Ye.

[School hygiene] Shkol' naya gigiena. Izd. 5. Moskva, [Uchpedgiz]
1956. 411 p. (MLRA 10:3)
(SCHOOL HYGIENE)

SOVETOV, S.Ye.

"Bulletin of the Institute of Physical Education and School Hygiene"
[in Bulgarian]. Reviewed by S.K.Sovetov. Gig. 1 san. 21 no.10:
59-60 O '56.
(MIRA 9:11)
(BULGARIA--SCHOOL HYGIENE)

SOVETOV, Sergey Yevgenevich, prof.; DANILOVA, M.P., red.; GUKASOVA, A.M.,
red.; FEDOTOVA, A.F., tekhn.red.

[School hygiene; a brief essay] Shkol'naya gigiena; kratkii ocherk.
Moskva, Gos. uchebno-pedagog. izd-vo M-va prosv. RSFSR, 1957.
246 p. (MIRA 11:5)

(SCHOOL HYGIENE)

SOVETOV, S.Ye., professor

Questions of school hygiene raised at the 13th All-Union Congress
of Hygienists, Epidemiologists, Microbiologists, and Specialists
in Infectious Diseases [with summary in English] Gig. i san.
22 no.2:3-12 P '57
(SCHOOLS
hyg. in Russia, problems)

(MIRAN 10:4)

GOVETOVA, S. YE., GUTKIN, A. YA.

"Modern Status and Tasks of Hygiene of Children and Adolescents."

report submitted at the 13th All-Union Congress of Hygienists, Epidemiologists and Infectionists, 1959.

SOVETOV, S.Ye., prof.

Reorganization of the secondary school and hygienic problems. Gig. i
san 24 no.1:8-12 Ja '59. (MIRA 12:2)

(SCHOOL HEALTH,

hyg. aspects of reorganization of high schools (Eng))

SOVETOV, S.Ye., prof.

[Essays on the history of health care for children from ancient times to the end of the 18th century] Ocherki po istorii gigienny d'etstva s drevneishikh vremen do kontsa XVIII stoletia. Moskva, Izd. MGPI im. V.I.Lenina, 1960. 229 p.
(CHILDREN-CARE AND HYGIENE)

SOVETOV, S.Ye., prof.

Prominent school hygienist A.S. Virenius; on the 50th anniversary
of his death. Gig. i san. 25 no. 6:44-49 Je '60. (MIRA 14:2)
(VIRENIUS, ALEKSANDR SAMIOHOVICH, 1832-1910)

SOVETOV, S.Ye., prof.; SERDYUKOVSKAYA, G.N.; STAPENOVA, Z.F., red.;
BALDINA, N.F., tekhn. red.

[Hygienic principles of the design, construction and equipment of schools and preschool institutions]Gigienicheskie osnovy proektirovaniia, stroyitel'stva i oborudovaniia shkol i detskikh doshkol'nykh uchrezhdenii. Moskva, Medgiz, 1962. 398 p. (Schoolhouses) (MIRA 16:4)

(Schools--Furniture, equipment, etc.)

SOVETOV, V.N.

Organization of physical therapy in the village. Vop.kur.fizioter.
i lech.fiz.kul't. 21 no.2:60-63 Ap-Je '56. (MLBA 9:9)

1. Iz kafedry fizioterapii (zav. - prof. G.L.Magazanik) Odesskogo
instituta usovershenstvovaniya vrachey imeni M.Gor'kogo.
(PHYSICAL THERAPY) (MEDICINE, RURAL)

SOVETOV, V.N.

Ten-day conference of the physicians of balneological and fango-
therapeutic sanatoriums. Vop.kur.fizioter. i lech.fiz.kul't. 21
no.2:92-93 Ap-Je '56. (MLRA 9:9)
(SANATORIUMS) (PHYSICAL THERAPY) (HYDROTHERAPY)

SOVETOV, Vasiliy Nikolayevich; KIRICHINSKIY, A.R., red.; GITSHTEIN, A.D.,
tekhn. red.

[How to utilize air, sun, sea, and mud baths] Kak pol'zovat'sia
vozdushnymi i solnechnymi vannami, morskimi i limernymi kupan'iemi;
sovety vracha. Moskva, Gos. med. izd-vo USSR, 1957. 44 p.
(MIRA 11:11)

(Baths)

SOVETOV, V.N.

Semiological role of skin temperature in the clinical treatment of internal diseases by M.E. Milimovka. Reviewed by V.N. Sovetov. Vop. kur., fizioter. i lech. fiz. kul't. 22 no.1:77-78 Ja-P '57 (MLRA 10:4)

1. Vypolnena v propedevticheskoy terapevticheskoy (zav.-prof. M.M. Orlov [deceased]) i fakul'tetskoy terapevticheskoy (zav.-prof. A.A. Oks) klinikakh Odesskogo meditsinskogo instituta imeni N.I. Pirogova. Zashchishchena v marte 1955 g. v tom zhe institute. (BODY TEMPERATURE) (VISCERA--DISEASES) (MILIMOVKA, M.E.)

Secret *Ref. 6.1.1.*

SOVETOV, V.N.

"Handbook for the practicing physician"; in two volumes. Reviewed by
V.N.Sovetov. Vop.kur.fizioter. i lech.fiz.kul't. 22 no.4:77-78
Jl-Ag '57. (MIRA 10:11)
(MEDICINE--HANDBOOKS, MANUALS, ETC.)

SOVETOV, Vasiliy Nikolayevich

[Treatment and rest at Odessa health resorts; advice from a physician] Lechenie i otokykh na kurortakh Odessy; sovety vracha. Odessa, Odesskoe obl.izd-vo, 1958. 97 p.

(MIRA 13:8)

(ODESSA--HEALTH RESORTS, WATERING PLACES, ETC.)

ORLOV, N.V., kand.med.nauk; KHLIEVSKIY, K.V., kand.med.nauk; SOVETOV, V.

"General physical therapy" by E.I.Pasynkov, L.R.Rubin. Reviewed
by N.V.Orlov, K.V.Khilevskii, V.Sovetov. Vop.kur.fizioter. i
lech.fiz.kul't. 23 no.2:174-178 Mr-Ap '58. (MIRA 11:6)

(PHYSICAL THERAPY)

(PASYNKOV, E.I.) (RUBIN, L.R.)

SOVETOV, V.N. (Odessa)

Ways of developing physical therapy care in the Ukrainian
S.S.R. Vrach.delo no.6:629-630 Je '60. (MIRA 13:7)

1. Ukrainskiy nauchno-issledovatel'skiy institut kurortologii
i fizioterapii. (UKRAINE--PHYSICAL THERAPY)

KURKUDYM, F.Ye.; KARAYEV, R.G.; BELEN'KIY, M.S.; ZAVALI, L.A.; KOVALEVA, M.T.;
SOVETOV, V.N.; SOKOLOV, A.V.; SHUKHTINA, I.A.

Professor V.V.Guk on his 70th birthday. Vop. kur., fizioter. i lech.
fiz. kul't. 25 no.2:184-185 Mr-Ap '60. (MIRA 13:9)
(GUK, VADIM VASIL'EVICH, 1889-)

SOVETOV, V.N.

Long-range planning of health resort, sanatorium, and physical therapeutic care. Vop. kur. fizioter. i lech. fiz. kul't. 25 no. 3:265-266 My-Je '60. (MIRA 14:4)

1. Zaveduyushchiy otdelom organizatsii kurortov i kurortnykh uchrezhdeniy Ukrainskogo instituta kurortologii i fizioterapii v Odesse.

(THERAPEUTICS, PHYSIOLOGICAL)

LARICHEV, Leonid Semenovich; SOVETOV, Vasiliy Nikolayevich; CHERNYSHEV,
V.P., red.; CHUCHUPAK, V.D., tekshred.

[Leaflet for patients and guests at the resorts of the Ukraine]
Pamiatka dlja lechashchikhsia i otdykhajushchikh na kurortakh
Ukrainy. 2.dop.izd. Kiev, Gos.med.izd.-vo USSR, 1961. 50 p.
(MIRA 15:5)
(UKRAINE--HEALTH RESORTS, WATERING PLACES, ETC.)

SOVETOV, Vasiliy Nikolayevich; KIRICHINSKIY, A.R., red.; BYKOV, N.M.,
tekhn. red.

[Physiotherapy without apparatus] Neapparatnaia fizioterapiia;
posobie dlja prakticheskikh vrachei. Kiev, Gosmedizdat
USSR, 1961. 272 p. (MIRA 16:1)
(PHYSICAL THERAPY)

SOVETOV, V.N.

Some aspects of the mechanism of the action of oxygen baths in sea
water. Vop. kur., fizioter. i lech. fiz. kul't. 26 no. 2:121-124
Mr-ap '61. (MIRA 14:4)

1. Iz Ukrainskogo instituta kurortologii v Odesse.
(HYPERTENSION) (OXYGEN--THERAPEUTIC USE)
(SEA WATER--THERAPEUTIC USE)

SOVETOV, Vasilii Nikolayevich [Sovietov, V.N.]; GLUKHEN'KII, T.T.
Glukhen'kyi, T.L., red.

[Artificial mineral waters and their use] Shtuchni mineral'ni
vody i ikh zastosuvannia. Kyiv, Derzhmedydat UkrSSR, 1963.
163 p.
(MIRA 18:7)

SOVETOV, V.N.

Once more about the organization of physiotherapeutic,
sanatorium and health resort service. Vop. kur., fizioter.
i lech. fiz. kul't. 28 no.4:361-363 . Jl-Ag '63. (MIRA 17:9)
1. Iz ottdela fizioterapii (zav. V.N. Sovetov) Ukrainskogo
instituta kurortologii i fizioterapii (dir. F.Ye. Kurkudym).

SAVETOV, V. P.

SOV-3-58-9-24/36

Moscow Avi-

AUTHOR: Sarkisyan, S.A., Candidate of Economics
Institute imeni S. Ordzhonikidze

TITLE: To Improve the Economical Training of Engineers for the Air-
craft Industry (Uluchshit' ekonomicheskuyu podgotovku in-
zhenerov dlya aviatsionnoy promyshlennosti)

PERIODICAL: Vestnik vysshey shkoly, 1958, Nr 9, pp 70-72 (USSR)

ABSTRACT: On the initiative of the Engineering-Economic Faculty of the
Moskovskiy aviatsionnyy institut imeni Ordzhonikidze (Moscow
Aviation Institute imeni Ordzhonikidze) (MAI) an inter-vuz
scientific-methodical conference of instructors of the chairs
of economics and of production organization from aviation
institutes took place in the summer of 1958. Representatives
of the Kazan', Kuybyshev, Moscow, Ufa and Khar'kov aviation
institutes, of the Moskovskiy aviatsionnyy tekhnologicheskiy
institut (Moscow Aviation and Technological Institute), wor-
kers of the USSR Gosplan, the Gor'kiy and Moscow City Sov-
narkhozes, the Gosudarstvennyy komitet po aviatsionnoy tekhnike
(State Committee on Aeronautical Engineering), the Nauch-
no-issledovatel'skiy institut tekhnologii i organizatsii

Card 1/3

SOV-3-58-9-24/36

To Improve the Economical Training of Engineers for the Aircraft Industry

proizvodstva aviatsionnoy promyshlennosti (NIAT) (Scientific-Research Institute of Technology and Organization of Production in the Aviation Industry) and the workers of aircraft enterprises participated in the conference works. The following persons delivered reports: Professor N.A. Orlov - Chief of the Upravleniye spetsializatsii i kooperirovaniya promyshlennosti Gosplana SSSR (Administration for the Specialization and Cooperation of the USSR Gosplan Industry and Head of the MAI Chair for the Organization of Aircraft Production) on "The Fundamental Problems of Developing Specialization and Cooperation in Soviet Industry"; V.P. Sovetov - Chief of the Upravleniye aviatsionnoy promyshlennosti Gor'kovskogo sovnarkhoza (Administration of the Aircraft Industry of the Gor'kiy Sovnarkhоз) on "Questions of Improving Planning in the Aircraft Industry"; Professor D.P. Andrianov - Head of the MAI Chair of Economics of Aircraft Industry, on "The Effectiveness of New Capital Investments"; N.P. Ternov - Chief of NIAT Laboratory, on the prospective plan of the scientific-research works in the field of economics and organization of aircraft production; Docent S.I. Didenko (MAI) and the instructor of the Kazan' Aviation Institute Yu.T.

Card 2/3

SOV-3-58-9-24/36

* To Improve the Economical Training of Engineers for the Aircraft Industry

Kaliberda on the program of the course "Economics and Organization of the Aircraft Industry". These reports were discussed at the plenary and section meetings. In analyzing the subjects and the students course works on economics and aircraft production organization at their particular institutes, Docent L.M. Ol'shevits (MAI) and Candidate of Economic Sciences F.I. Paramonov (Kuybyshev Aviation Institute) emphasized the positive role of these works in the teaching process. The central place in the conference work was occupied by discussions on the economic basis of the students diploma design in constructing and technological specialities. On this question reports were delivered by the Docent V.I. Tikhomirov and L.M. Kul'berg, Candidate of Economic Sciences A.V. Glichev (MAI), and Docent A.I. Boltyanskiy (Kuybyshev Aviation Institute). The conclusions of these speakers and the recommendations issued by the conference are contained in the article.

Card 3/3

SOVETOV, V. S.

River shipping and hydrology, hydrometeorological library. RECHNOYE
SUDOKHODSTVO I GIDROLOGIYA. GIDROLOGICHESKAYA BIBLIOTEKA GIDROMETARLIUDENIYA. Leningrad.
Hydrometeorological Publ. 1950. pp. 56.

SOVETOVA, A.N.; KAZANSKAYA, O.P.

Significance of osteoplastic fixation of the spine in association
with radical interventions in tuberculous spondylitis. Vest.khir.
(MIRA 14:4)
no.4:42-46 '61.

1. Iz Leningradskogo nauchno-issledovatel'skogo instituta khirur-
gicheskogo tuberkuleza (dir. - prof. P.G. Kornev).
(SPINE-TUBERCULOSIS)

SOVETOVA, A.P., kandidat meditsinskikh nauk

Osteophastic fixation of the spine in tuberculous spondylitis. Ortop..
travm. i protez. 17 no.4:37-42 Jl-Ag '56. (MLRA 9:12)

1. Iz Leningradskogo instituta khirurgicheskogo tuberkuleza (dir. -
deystvitel'nyy chlen AMN SSSR prof. P.G.Kornev)
(TUBERCULOSIS, SPINAL, surg.
bone grafts)
(BONES, transpl.
grafts in surg. of tuberc. of spine)

SOVETOVA, G.I.

Effect of mineral nutrition on the water cycle and metabolism of
timothy leaves. Uch.zap.Kaz.un. 116 no.1:203-206 '55.
(MLRA 10:5)

1.Kafedra fisiologii rasteniy i mikrobiologii.
(Timothy grass) (Fertilisers and manures)
(Botany--Physiology)

SOVETOVA G.I.

I-2

USSR/Physiology of Plants. Mineral Nutrition

Abs Jour : Ref Zhur-Biologiya, No 2, 1958, 5632

Author : G. I. Sovetova

Inst : Kazan University

Title : Effect of Mineral Nutrition on the Water Regimen
and Metabolism in Timothy Leaves

Orig Pub : Uch. zap. Kazanskovo un-ta, 1956, 116, No 1,
203-206

Abstract : In field and vegetative experiments with nutrients
of timothy in the 1st, 2nd, and 3rd years of life
(chair of plant physiology and microbiology of
the Kazan University) the dry mass of the leaves
increased under the influence of nutrients. Un-
der the influence of the nutrients NPK and PK
the quantity of colloidally fixed water and the
content of protein N also increased. With the

Card 1/2

USSR/Physiology of Plants. Mineral Nutrition

Abs Jour : Ref Zhur-Biologiya, No 2, 1958, 5632

I-2

Abstract : nutrient PK the quantity of protein N was in a negative correlation with the quantity of colloidally fixed water. The intensity of assimilation and synthesis of sugars in the leaves of timothy in the 3rd year of life increased during the first phases of vegetation under the influence of nutrients. In experiments conducted in 1952 the intensity of assimilation decreased in comparison with the control under the influence of additional PK. The addition of NPK before the blooming led to a rise in the intensity of assimilation during the maturity phase. It is noted that during the initial period of growth (the phase of shoots) the main portion of phosphorus in the leaves of timothy (2nd year of life) is in the form of organic compounds.

Card 2/2

ALEKSEYEV, A.M.; SOVETOVA, G.I.; SAMODELKINA, S.D.

Permeability to water and swelling of the protoplasm. *Viziol.*
rast. 6 no.6:649-653 N.D. 59. (MIRA 13:4)

1. Laboratory of Plant Physiology of Kasan University.
(Plants--Absorption of water)

BLOKH, G.S.; ZAYONTS, R.M.; SOVETSOVA, L.K.

Using the method of the reciprocal displacement of liquids for
determining the size of pores of ceramic products. Stek. i kar.
17 no. 11:30-33 N '60. (MIRA 13:12)
(Ceramics)

Sovetova, L.S.

AUTHOR: Dyakova, M.K., Vol'-Epshteyn, A.B., Sovetova, L.S. and
Aleksi, E.A. 654-5/12

TITLE: Processing of gas producer tar from cis-Baltic oil shales
into motor fuel, chemical products and gas. (Pereabotka Gaz-
ogeneratornoy smoly pribaltiyskikh goryuchikh slantsev na
motornoye toplivo, khimicheskiye produkty i gas).

PERIODICAL: "Khimiya i Tekhnologiya Topliva i Masel" (Chemistry and
Technology of Fuels and Lubricants) 1957, No. 4, pp. 28-38 (USSR)

ABSTRACT: Thermal cracking of gas producer shale tar with subsequent
treatment of the individual fractions was investigated. Two
schemes for processing tar (Figs. 2 and 3) were developed: I.
Tar distillation with subsequent cracking of heavy residues to
coke (with an addition of raw shale as a catalyst) in an inst-
allation with a solid flowing heat transfer medium; extraction
of phenols and neutral oxygen containing compounds with meth-
anol from the distillates boiling up to 320°C, and the purif-
ication of the fractions extracted with methanol by hydro-gen-
ation over an industrial tungsten-sulphide catalyst. II. Dis-
tillation of tar, methanol extraction of the wide fraction
boiling up to 300°C and followed by hydrogenation. There are
Card 1/1 7 tables, 3 figures and 15 references, 11 of which are Slavic.

ASSOCIATION: IGI, Ac.Sc. U.S.S.R. (IGI AN SSSR)

AVAILABLE:

"APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001652620011-7

SOVIET OVERSIGHT

V 2572 MOTOR FUEL STOCK REPORT U.S. DIVISION, U.S. VOLUNTEER AIR FORCE
Kiev, Soviet Union, 1957. V.V. and S.Y. Sovietov (U.S.S.R.). (CIA) 1957 abstract in
a motor file is obtained by them.

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Classification treatment
Gasoline and diesel fuel

C.A.

OTB
WT

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SOVETOVA, L. S.

ПОЛУЧЕНИЕ ХИМИЧЕСКИХ ПРОДУКТОВ
из ПЕРВИЧНЫХ КАМЕННОУГОЛЬНЫХ СЫРОЙ
МЕТОДОМ ГИДРОГЕНАЦИИ
под НЕВЫСОКИМ ДАВЛЕНИЕМ

А. А. Борисов, А. В. Петрова,
А. С. Соловьев, Л. В. Шевченко

VIII Mendeleyev Congress for General and Applied Chemistry in
Section of Chemistry and Chemical Technology of Fuels,
publ. by Acad. Sci. USSR, Moscow 1959

Abstract of report submitted to be presented at above mentioned conference,
Moscow, 10 March 1959.

LOZOVY, A.V.; SENYAVIN, S.A.; SOVETOVA, L.S.

Transformations of some hydrocarbons during hydrogenation in
the presence of aluminosilicate catalysts. Trudy IGI 9:122-128
'59. (MIRA 13:1)

(Hydrocarbons) (Hydrogenation)

KALIN, A.A.; LOZOVAY, A.V.; POMELINA, D.P.; SOVETCVA, L.S.; SHAGINA, L.N.

Chemical products from nonpyrolyzed tar obtained by continuous coking
of Kuznetsk coal. Izv.Sib.otd.AN SSSR no.12:26-95 '60. (MIRA 14:2)

1. Institut goryuchikh iskopayemykh AN SSSR.
(Coal-tar products)

S/080/60/033/04/33/045

AUTHORS: Lozovoy, A.V., Senyavin, S.A., Sovetova, I.S.

TITLE: On the Transformations of Benzene, Cyclohexane and Isooctane in the Case of Destructive Hydrogenation in the Presence of a Catalyst With Alumosilicate Base

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol 33, Nr. 4, pp 947 - 953

TEXT: This is an investigation of the chemism of destructive hydrogenation of benzene, cyclohexane and isoctance in the presence of a W-Cr-Zn-S-F-alumosilicate catalyst at 510°C and a pressure of 300 atm. It has been established that the transformation of benzene takes place by hydrogenation (about 37% of benzene reacted) with subsequent isomerization of cyclohexane to methylcyclopentane, the destruction of cyclohexane, methylcyclopentane and other saturated hydrocarbons with a number of carbon atoms in the molecule below six, and also in a small degree by alkylation of benzene by methyl and ethyl radicals. It was found that the destruction hydrogenation of cyclohexane (depth of transformation 48.4%) includes its isomerization into methylcyclopentane, the destruction of naphthene rings with the formation of paraffin C₁-C₆ hydrocarbons (in which case among the C₄-C₆ hydrocarbons the isoparaffin hydrocarbons prevail) and a weakly

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S/080/60/033/04/33/045

On the Transformations of Benzene, Cyclohexane and Isooctane in the Case of Destructive Hydrogenation in the Presence of a Catalyst With Alumosilicate Base

developed reaction of cyclohexane alkylation. The destructive hydrogenation of isooctane proceeds very intensively (73% transformed), the main product being isobutane (36 weight % of the isooctane transformed; 8.4% are propane and 4.4% n-butane). Under the conditions of destructive hydrogenation one of the C-C bonds of a quaternary carbon atom of isooctane is very weak. The hydrocarbons investigated are arranged in the following series according to the transformation rate: isooctane > cyclohexane > benzene. Under the conditions of high-temperature destructive hydrogenation at a pressure of 300 atm the catalyst investigated activates the reactions of destructive hydrogenation of isoparaffin hydrocarbons, the isomerization of the six-membered naphthene ring to a five-membered one and the decomposition of the naphthene rings. The reaction of hydrogenation of a benzene ring is activated moderately, the alkylation of benzene and cyclohexane weakly. The reactions of dehydrogenation, cyclization and aromatization of naphthenes and isonaphthenes are very weakly developed. There are: 3 tables and 10 references, 8 of which are Soviet and 2 English.

ASSOCIATION: Institut goryuchikh iskopayemykh AN SSSR (Institute of Mineral Fuels of the AS USSR)

SUBMITTED: September 11, 1959

Card 2/2

KRICHKO, A.A.; SOVETOVA, L.S.

High temperature destructive hydrogenation of xylenes. Izv. AN
SSSR. Otd.khim.nauk no.9:1704-1705 S '61. (MIRA 14:9)

1. Institut goryuchikh iskopayemykh AN SSSR.
(Xylene) (Hydrogenation)

S/064/62/000/006/001/003
B144/B138

AUTHORS: Krichko, A. A., Lozovoy, A. V., Sovetova, I. S.

TITLE: Production of naphthalene from aromatized crude by high-temperature hydrogenation

PERIODICAL: Khimicheskaya promshlennost', no. 6, 1962, 1 - 5

TEXT: Naphthalene (N) was produced by hydrogenation of α -methyl N, decalin, n-hexadecane, 1:1 mixture of β -methyl and toluene, and some commercial mixtures containing alkyl N, in a 0.2-liter laboratory reactor. The composition of the hydrogenates was determined by rectification reactor chromatography on silicagel, and spectral analysis. The catalyst was Al₂O₃ + MoO₃ (CI). The initial mixture showed that: (1) These tests carried out with Al₂O₃ + MoO₃ (CI) catalyst showed that: (1) methyl N are easily demethylated to N; (2) low boiling aromatic hydrocarbons (HC) form if the initial mixture contains monocyclic aromatic hydrocarbons (HC); (3) dicyclic hexatomic naphthene HC are good compounds and yield enough N to liberate H₂ on dehydrogenation, thus reducing H₂ consumption; (4) paraffin HC should be previously removed. Thus, the N-free commercial mixtures selected for the

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S/064/62/000/006/001/003

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Production of naphthalene from ...

production of N were: coal tar, tar from gaseous HC, green oil from kerosene, dewaxed gasoil produced by thermal cracking, pyridine extract from gasoil produced by catalytic cracking. Hydrogenation was performed in the presence of CI, $\text{CoO} + \text{MoO}_3 + \text{Al}_2\text{O}_3$ (CII), and $\text{Cr}_2\text{O}_3 + \text{K}_2\text{O} + \text{Al}_2\text{O}_3$ (CIII) catalysts at 40, 70, and 100 atm; 500 and 600°C; a space velocity of 1.0 - 1.5 kg/l·hr; and a H_2 input of 1000 kg/1 kg of crude. With coal tar,

maximum yields in N were obtained from the 230 - 250°C fraction with CII and CI (34.8 and 33.6 % by weight). Dewaxed gasoil yielded only 3.1 % N. Generally speaking, the yields from the 230 - 350°C fractions ranged from 20 to 60 % when H_2O vapor (20 % of the weight of the crude) was added. A

high content in aromatic HC (> 75 %) is essential for a good N output. CIII proved much less effective than CII. The catalyst activity is limited by carbon deposits, but can be maintained by periodic regeneration or temperature reduction to 530 - 550°C. Non-catalytic dealkylation of aromatic HC by high-temperature hydrogenation is possible, but requires temperatures of 700°C and above to obtain the same degree of conversion. Extraction with pyridine seems to be a promising method of using raw material containing even less than 75 % aromatic HC, such as kerosene and

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